Model Vegetated Buffer Ordinance

I. Purpose:

To minimize nonpoint source pollution, prevent erosion and flooding, preserve wildlife habitats, and protect natural views and recreational opportunities, a vegetated buffer zone shall be maintained along the banks of rivers, streams, and creeks.

II. Depth:

The vegetated buffer shall be of a minimum *average* depth of fifty feet. Depth shall be measured from mean high water line in tidally influenced waters.

A. The inner twenty-five feet of the buffer (closest to the water body) is to be left pristine and forested, with the possible exception of a view corridor (see **III** below). The only allowable uses are boardwalks to the water, footpaths parallel to the water, stormwater channels, and a few utility or roadway crossings.

B. The next twenty-five foot zone of the buffer can be managed forest with some pruning and clearing of trees allowed. Landowners can submit a clearing and landscaping plan to the planning department for this purpose. Any newly planted vegetation in the first fifty feet of a buffer must be native vegetation from a list provided by the planning department. Stormwater BMPs and limited recreational uses, such as bikepaths, are allowed in this zone. No turf (lawn) is allowed.

C. Pollutant removal efficiency decreases as the slope of a buffer increases. Therefore, if the slope of a buffer is above 5%, it shall be required to be a minimum average depth of 75 feet. If the slope of a buffer is above 10%, it shall be required to be a minimum average depth of 100 feet.

D. To prevent the buffer from becoming fragmented, no more than ten percent of the buffer can be less than thirty-three feet deep and no part of the buffer can be less than twenty-five feet deep.

III. Vegetative Target and View Corridors:

New vegetation allowed in the buffer shall be based on the native, predevelopment plant community.

Property owners may clear and prune vegetation in a portion of the buffer to establish a "view corridor." The size of a view corridor shall be either seventy-five feet wide or one-third the width of the lot, whichever is less. If the landowner wants to establish a view corridor, he or she must submit a selective clearing and landscaping plan to the planning department. The plan must leave enough vegetation in the corridor to maintain the function of the buffer. Any trees removed must be replaced by shrubs or small trees from a plant list of native vegetation supplied by the planning department. To prevent conversion to turf, no pruning shall be allowed below a height of three feet. If a landowner clears more vegetation than is allowed, he or she will be subject to a fine and required to revegetate the segment of the buffer in violation (see section **IX**).

IV. Density Credits for Landowners:

When buffers consume more than five percent of a landowner's developable land, density credits shall be granted to the landowner that allow one additional dwelling unit to be built for every acre of his or her property affected by buffers. These density credits shall be accommodated at the development site by allowing greater flexibility in setbacks, frontage distances, or minimum lot sizes to squeeze in "lost lots." Cluster development may be used for this purpose.

V. Waivers:

A property owner may be granted a waiver at the discretion of the planning department if he or she can demonstrate severe economic hardship or that unique circumstances make it impossible to meet some or all of the buffer requirements. Modifications to the width of the buffer may be allowed in accordance with the following criteria:

A. Modifications to the buffer shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities.

B. Where possible, a vegetated area equal to the area encroaching the buffer shall be preserved or established elsewhere on the lot or parcel in a way to maximize water quality protection.

C. In no case shall the reduced portion of the buffer be less than twenty-five feet in width.

If the request is denied, the owner may appeal to town/city council within thirty days of the denial.

VI. Exemptions:

Proposed development that has reached the preliminary plat stage by the time the ordinance is enacted shall be exempt from the rules of the ordinance.

VII. Making Buffers Visible:

Developers, builders, and residents shall be informed on the location of and reason for the buffers, and the boundaries of buffers shall be made visible before, during, and after construction with posted signs that describe allowable uses. Buffer boundaries shall be printed on all development and construction plans, plats, and official maps.

VIII. Buffer Crossings:

Attempts should be made to limit the number of road crossings across water bodies and to minimize the width of crossings at the discretion of the planning department and the South Carolina Department of Transportation. Direct right angles shall be used to cross the water bodies. All roadway crossings and culverts should be capable of passing the ultimate 100-year flood.

Road rights of way should be reduced in buffer zones, with utilities under pavement. Crossing water bodies with mainline sewer shall be avoided, and sewers shall be sited out of buffers. All footpaths accessing a buffer (running to the water) shall be covered by wooden boardwalks to prevent the channelization of stormwater runoff that is caused by dirt footpaths.

IX. Enforcement:

To ensure no improper encroachment, buffers shall be actively managed with periodic "buffer walks" at a frequency to be determined by the planning department. In addition, citizen reports of encroachments into a buffer shall be acted upon immediately. Violators shall be served with civil fines of not more than $500 and required, at their own expense, to revegetate the section of the buffer encroached upon at the instruction of the planning department, using only plants from a list of native vegetation provided by the town. The same types of plants that were removed shall be replaced. For example, if five trees were removed, five trees shall be replanted, and the new trees must be of ample size, at the judgement of the planning department, to best mitigate for the loss of the original trees.

X. Stormwater Management:

Vegetated buffers shall not be relied upon as the sole stormwater management tool.

Resources:

Desbonnet, A., P. Pogue, V. Lee, and N. Wolff. 1994. *Vegetated Buffers in the Coastal Zone: a summary review and bibliography*. Coastal Resources Center. Univ. Rhode Island. 72 pp.

Heraty, M. 1993. *Riparian Buffer Programs: a guide to developing and implementing a riparian buffer program as an urban stormwater best management practice.* Metropolitan Washington Council of Governments. USEPA Office of Oceans, Wetlands and Watersheds. 152 pp.

Metropolitan Washington Council of Governments (MWCOG). 1995. Riparian Buffer Strategies for Urban Watersheds. MWCOG. Washington, DC. 101 pp.

Schueler, T. 1995. *The Architecture of Urban Stream Buffers.* Watershed Protection Techniques. 1(4): 155-163.

Schueler, T. 1994. *The Invisibility of Stream and Wetland Buffers – Can Their Integrity Be Maintained?*. Watershed Protection Techniques. 1(1):19-21.

Welsh, D. 1991. *Riparian Forest Buffers*. USDA Forest Service. Forest Resources Management. Radnor, PA. 22 pp.